

WHAT IS CLAIMED IS:

1. A service management method which makes a computer execute the steps of:

registering unique data to specify each product-in-circulation delivered to a service receiver and expiring date data of the product-in-circulation in a terminal;

detecting use of the product-in-circulation used by a service receiver via a network;

recognizing the use as a purchase action;

calculating an account of a product-in-circulation recognized as the purchase action, out of products-in-circulation delivered to the service receiver, in accordance with the expiring date data of the product-in-circulation.

2. The service management method as set forth in claim 1, further comprising the step of outputting an instruction to collect an unused product-in-circulation of all products-in-circulation delivered to the service receiver, after a prescribed duration.

3. A service management method which makes a computer execute the steps of:

accessing management data which records, as

required, (a) unique data to specify each product-in-circulation delivered to a service receiver, (b) expiring date data of the product-in-circulation, and (c) status on use of the product-in-circulation used by the service receiver, so as to specify a product-in-circulation recognized to be purchased by the service receiver, and so as to read out the expiring date data of the product-in-circulation that has been specified;

calculating a period-before-expiring of the product-in-circulation that has been specified, in accordance with the expiring date data that has been read out; and

calculating an account of the specified product-in-circulation, the account being varied according to the calculated period-before-expiring.

4. The service management method as set forth in claim 3, further comprising the step of outputting an instruction to collect an unused product-in-circulation, of all products-in-circulation delivered to the service receiver, after a prescribed duration.

5. A service management method, in which a computer causes a product-in-circulation for use in operating a machine to be provided, making a computer execute the

steps of:

causing a terminal managed by a service provider to register unique data of a product-in-circulation delivered to a service receiver and expiring date data of the product-in-circulation in the terminal;

causing a machine provided on a side of the service receiver to read out the unique data of the product-in-circulation installed in the machine;

transmitting data which contains at least the unique data, that has been read out, to the service provider;

causing the terminal managed by the service receiver to detect the data via a network;

recognizing installation of the product-in-circulation in the machine as a purchase action, in accordance with the unique data that has been detected; and

calculating an account of a product-in-circulation recognized as the purchase action, of all products-in-circulation, in accordance with the expiring date data of the product-in-circulation.

6. The service management method as set forth in claim 5, further comprising the step of outputting an instruction to collect an unused product-in-circulation,

of all products-in-circulation delivered to the service receiver, after a prescribed duration.

7. A service management apparatus comprising: a product-in-circulation data memory section for registering data to specify a product-in-circulation delivered to a service receiver and expiring date data of the product-in-circulation in pairs; an input section for inputting status on use of the product-in-circulation; and an arithmetic processing section for calculating an account of a product-in-circulation that has been used, of all products-in-circulation, in accordance with the expiring date data of the product-in-circulation.

8. A service management apparatus comprising: a product-in-circulation data memory section for registering unique data to specify each product-in-circulation delivered to a service receiver and expiring date data of the product-in-circulation in pairs; a communications section for detecting use of the product-in-circulation via a network; and an arithmetic processing section for calculating an account of a product-in-circulation detected being used, of all products-in-circulation delivered to the service receiver, in accordance with the expiring date data of the product-in-circulation.

9. The service management apparatus as set forth in claim 8, further comprising:

an account factor memory section for registering an account factor table related to period-before-expiring data of the product-in-circulation; and

a basic account memory section for registering a basic account table of the product-in-circulation related to the unique data of the product-in-circulation, wherein

the arithmetic processing section (a) calculates a period-before-expiring of the product-in-circulation that has been detected being used in accordance with the expiring date data of the product-in-circulation, and (b) obtains an account factor by reference to the account factor table in terms of the period-before-expiring, and (c) obtains a basic account by reference to the basic account table in terms of the unique data of the product-in-circulation that has been detected being used, and (d) calculates an account of the product-in-circulation by multiplying the account factor and the basic account that have been obtained.

10. A service management network system comprising: a first group and a second group, wherein:

the first group is a machine on which a product-in-

circulation, having unique data, which is consumed or degraded, is installed so as to be detachable, and the machine includes: (a) a read-out section for detecting unique data of the product-in-circulation from the product-in-circulation; (b) a transmitter section for externally transmitting the unique data that has been read out via a network; and (c) a controller section for controlling the read-out section and the transmitter section, and

the second group is a service management apparatus including: (a) a communications section for performing communications with the first group; (b) a product-in-circulation data memory section for registering the unique data of the product-in-circulation and expiring date data of the product-in-circulation generated in the first group; and (c) an arithmetic processing section for confirming status on use of the product-in-circulation so as to calculate an account of a used product-in-circulation, of all products-in-circulation delivered to a service receiver, in accordance with the expiring date data of the product-in-circulation.

11. A service management network system comprising: a first group and a second group, wherein:

the first group is a machine including: (a) a read-

out section for detecting unique data of a product-in-circulation from the product-in-circulation having the unique data; (b) a transmitter/receiver section for externally transmitting the unique data that has been read out via a network; and (c) a controller section for controlling the read-out section and the transmitter/receiver section, and

the second group is a service management apparatus including: (a) a communications section for performing communications with the first group; (b) a product-in-circulation data memory section for registering the unique data of the product-in-circulation and expiring date data of the product-in-circulation generated in the first group; and (c) an arithmetic processing section for confirming status on use of the product-in-circulation so as to calculate an account of a used product-in-circulation, of all products-in-circulation delivered to a service receiver, in accordance with the expiring date data of the product-in-circulation.

12. A service management program making a computer execute a service management method which includes the steps of:

registering unique data to specify each product-in-circulation delivered to a service receiver and expiring

date data of the product-in-circulation in a terminal;  
detecting use of the product-in-circulation used by  
a service receiver via a network;  
recognizing the use as a purchase action;  
calculating an account of a product-in-circulation  
recognized as the purchase action, of all products-in-  
circulation, in accordance with the expiring date data  
of the product-in-circulation.

13. A service management program making a computer  
execute a service management method which includes the  
steps of:

accessing management data which records, as  
required, (a) unique data to specify each product-in-  
circulation delivered to a service receiver, (b)  
expiring date data of the product-in-circulation, and  
(c) status on use of the product-in-circulation used by  
the service receiver, so as to specify a product-in-  
circulation recognized to be purchased by the service  
receiver, and so as to read out the expiring date data  
of the product-in-circulation that has been specified;

calculating a period-before-expiring of the  
product-in-circulation that has been specified, in  
accordance with the expiring date data that has been  
read out; and



calculating an account of the specified product-in-circulation, the account being varied according to the calculated period-before-expiring.

14. A service management program, whereby a product-in-circulation for use in operating a machine is provided, making a computer execute a service management method which includes the steps of:

causing a terminal managed by a service provider to register unique data of a product-in-circulation delivered to a service receiver and expiring date data of the product-in-circulation in the terminal;

causing a machine provided on a side of the service receiver to read out the unique data of the product-in-circulation installed in the machine;

transmitting data which contains at least the unique data, that has been read out, to the service provider;

causing the terminal managed by the service receiver to detect the data via a network;

recognizing installation of the product-in-circulation in the machine as a purchase action in accordance with the unique data that has been detected; and

calculating an account of a product-in-circulation

recognized as the purchase action, of all products-in-circulation, in accordance with the expiring date data of the product-in-circulation.

15. A computer program product recording a service management program which makes a computer execute a service management method which has the steps of:

registering unique data to specify each product-in-circulation delivered to a service receiver and expiring date data of the product-in-circulation in a terminal;

detecting use of the product-in-circulation used by a service receiver via a network;

recognizing the use as a purchase action;

calculating an account of a product-in-circulation recognized as the purchase action, of all products-in-circulation, in accordance with the expiring date data of the product-in-circulation.

16. A computer program product recording a service management program which makes a computer execute a service management method which has the steps of:

accessing management data which records, as required, (a) unique data to specify each product-in-circulation delivered to a service receiver, (b)

expiring date data of the product-in-circulation, and  
(c) status on use of the product-in-circulation used by  
the service receiver, so as to specify a product-in-  
circulation recognized to be purchased by the service  
receiver, and so as to read out the expiring date data  
of the product-in-circulation that has been specified;

calculating a period-before-expiring of the  
product-in-circulation that has been specified, in  
accordance with the expiring date data that has been  
read out; and

calculating an account of the specified product-in-  
circulation, the account being varied according to the  
calculated period-before-expiring.

17. A computer program product recording a service  
management program which makes a computer execute a  
service management method which has the steps of:

causing a terminal managed by a service provider to  
register unique data of a product-in-circulation  
delivered to a service receiver and expiring date data  
of the product-in-circulation in the terminal;

causing a machine provided on a side of the service  
receiver to read out the unique data of the product-in-  
circulation installed in the machine;

transmitting data which contains at least the

unique data, that has been read out, to the service provider;

causing the terminal managed by the service receiver to detect the data via a network;

recognizing installation of the product-in-circulation in the machine as a purchase action in accordance with the unique data that has been detected; and

calculating an account of a product-in-circulation recognized as the purchase action, of all products-in-circulation, in accordance with the expiring date data of the product-in-circulation.

18. A service management method making a computer program execute the steps of:

registering unique data of a product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in a memory section that is capable of being accessed by a computer;

detecting use of the product-in-circulation used by the service receiver via a network;

recognizing the use that has been detected as a purchase action; and

calculating an account of a product-in-circulation recognized as the purchase action, of all products-in-

circulation, by considering the number of times collected data of the product-in-circulation.

19. The service management method as set forth in claim 18, further comprising the step of specifying an unused product-in-circulation that is to be collected from the service receiver after a prescribed duration, of all products-in-circulation delivered to the service receiver.

20. A service management method, in which a computer causes a product-in-circulation for use in operating a machine to be provided, making the computer execute the steps of:

causing a terminal managed by a service provider to register unique data of the product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in memory means which is capable of being accessed by the computer; causing a machine provided on a side of the service receiver to read out the unique data of the product-in-circulation installed in the machine; transmitting data, that includes the unique data of the product-in-circulation, to a terminal managed by the service provider; causing the terminal managed by the

service provider to detect the data via a network; recognizing installation of the product-in-circulation in the machine as a purchase action in accordance with the unique data of the product-in-circulation; and calculating an account of a product-in-circulation recognized as the purchase action, of all products-in-circulation, by considering the number of times collected data of the product-in-circulation.

21. The service management method as set forth in claim 20, further comprising the step of specifying an unused product-in-circulation that is to be collected from the service receiver after a prescribed duration, of all products-in-circulation delivered to the service receiver.

22. A service management apparatus comprising: a product-in-circulation data recording section for registering unique data of a product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in pairs; an input section for inputting status on use of the product-in-circulation; and an arithmetic processing section for calculating an account of a product-in-circulation detected being used in accordance with the

status on use, of all products-in-circulation, by considering the number of times collected data of the product-in-circulation.

23. A service management apparatus comprising: a product-in-circulation data recording section for registering unique data of a product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in pairs; a communications section for detecting use of the product-in-circulation via a network; and an arithmetic processing section for calculating an account of a product-in-circulation detected being used by means of the communications section, of all products-in-circulation delivered to the service receiver, by considering the number of times collected data of the product-in-circulation.

24. A service management network system comprising a first group and a second group, wherein:

the first group is a machine in which a product-in-circulation, having unique data, which is consumed or degraded, is installed as to be detachable, and the machine includes: (a) a read-out section for detecting the unique data of the product-in-circulation from the

product-in-circulation; (b) a transmitter section for externally transmitting the unique data that has been read out via a network; and (c) a controller section for controlling the read-out section and the transmitter section, and

the second group is a service management apparatus including: (a) a product-in-circulation data recording section for registering the unique data of the product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation; (b) a communications section for performing communications with the first group so as to obtain data which contains the unique data; and (c) an arithmetic processing section for calculating an account of a product-in-circulation detected being used in accordance with the data, of all products-in-circulation delivered to the first group, by considering the number of times collected data of the product-in-circulation.

25. A service management network system comprising a first group and a second group, wherein:

the first group is a machine including: (a) a read-out section for detecting unique data of a product-in-circulation from the product-in-circulation having the unique data; (b) a transmitter section for externally



transmitting data which contains the unique data via a network; and (c) a controller section for controlling the read-out section and the transmitter section, and

the second group is a service management apparatus including: (a) a product-in-circulation data recording section for registering the unique data of the product-in-circulation and number of times collected data of the product-in-circulation; (b) a communications section for performing communications with the first group so as to obtain the data which contains the unique data; and (c) an arithmetic processing section for calculating an account of a product-in-circulation detected being used in accordance with the data, of all products-in-circulation delivered to the first group, by considering the number of times collected data of the product-in-circulation.

26. A service management program making a computer execute a service management method which includes the steps of: registering unique data of a product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in a memory section that is capable of being accessed by the computer; detecting use of the product-in-circulation used by the service receiver via a network;

recognizing the use that has been detected as a purchase action; and calculating an account of a product-in-circulation recognized as the purchase action, of all products-in-circulation, by considering the number of times collected data of the product-in-circulation.

27. A service management program, whereby a product-in-circulation for use in operating a machine is provided, making a computer execute a service management method which includes the steps of: causing a terminal managed by a service provider to register unique data of the product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in memory means that is capable of being accessed by the computer; causing a machine provided on a side of the service receiver to read out the unique data of the product-in-circulation installed in the machine; transmitting data, that includes the unique data of the product-in-circulation, to a terminal managed by the service provider; causing the terminal managed by the service provider to detect the data via a network; recognizing installation of the product-in-circulation in the machine as a purchase action based on the unique data of the product-in-circulation; and calculating an account of a product-in-circulation

recognized as the purchase action, by considering the number of times collected data of the product-in-circulation.

28. A computer program product recording a service management program which makes a computer execute a service management method which includes the steps of: registering unique data of the product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in memory means that is capable of being accessed by the computer; detecting use of the product-in-circulation used by the service receiver, via a network; recognizing the use of the product-in-circulation as a purchase action; and calculating an account of a product-in-circulation recognized as the purchase action by considering the number of times collected data of the product-in-circulation.

29. A computer program recording a service management program for providing a product-in-circulation for use in operating a machine, the service management program making a computer execute a service management method which includes the steps of: causing a terminal managed by a service provider to register unique data of the

product-in-circulation delivered to a service receiver and number of times collected data of the product-in-circulation in memory means that is capable of being accessed by the computer; causing a machine provided on a side of the service receiver to read out the unique data of the product-in-circulation installed in the machine; transmitting data, that includes the unique data of the product-in-circulation, to a terminal managed by the service provider; causing the terminal managed by the service provider to detect the data via a network; recognizing installation of the product-in-circulation in the machine as a purchase action in accordance with the unique data of the product-in-circulation; and calculating an account of a product-in-circulation recognized as the purchase action by considering the number of times collected data of the product-in-circulation.